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EXAMINER

HINZE, LEO T

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2854

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/516,526	Applicant(s) TELLJOHANN, LUTZ	
	Examiner Leo T. Hinze	Art Unit 2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Objections

1. Claims 2-11 and 15 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Regarding, for example, Claim 2, the claim appears to recite an apparatus, and to further claim an intended use of the apparatus, the intended use being the method of Claim 1. It is not clear, however, whether the claimed feature "wherein the feed ink is diverted through a bypass line that departs from the feed line" is intended to be a structural element of the apparatus of Claim 2, or an additional step of the method of Claim 1.

Claims 3-11 and 15 are objected to for similar reasons to those discussed for Claim 2 above.

To expedite prosecution, the examiner will apply rejections to Claims 2-11 and 15 with respect to the prior art as discussed below.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 17, 18, 20, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Heller US 2003/0084805 A1 (hereafter Heller).

a. Regarding claim 17, Heller teaches a device that delivers ink to and from a closed squeegee device (Fig. 2) of a rotary printing unit inking system, comprising:

a first and a second pumping device (19, 21, Fig. 1) in which a flow rate ratio between the first pumping device and the second pumping device is fixed (pumps 19 and 21 have a common shaft ¶ 61);

a first bypass line (47, Fig. 1) capable of controllably diverting from an ink feed line that feeds the ink to the squeegee device a portion of the feed ink; and

a second bypass line (57, Fig. 1) capable of controllably diverting from an ink return line that removes the ink from the squeegee a portion of the return ink.

b. Regarding claim 18, Heller teaches a device according to claim 17 as discussed in the rejection of claim 17 above. Heller also teaches wherein the first bypass line departs from the ink feed line on a discharge side of the first pumping device (line 47 branches from valve 31 on discharge side of pump 19, Fig. 1) and communicates the diverted feed ink to an ink tank that is in communication through an ink suction line with a suction side of the first pumping device (ink diverted through line 47 may flow to tank 7 without flowing through inking device, Fig. 1).

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- c. Regarding claim 20, Heller teaches a device according to claim 17 as discussed in the rejection of claim 17 above. Heller also teaches wherein the first pumping device is an ink feed chamber and the second pumping device is an ink return chamber of a double diaphragm pump (§ 61).
- d. Regarding claim 22, Heller teaches a device according to claim 17 as discussed in the rejection of claim 17 above. Heller also teaches wherein a volume of the feed ink that may be diverted from the ink feed line is such that the flow rate ratio may correspond to a volume pumped by the pumping devices. The device of Heller is capable of diverting ink as discussed above, and capable of doing so such that flow rates correspond such that a proper amount of ink is delivered to the inking device of Fig. 2 for efficient printing operations.

Claim Rejections - 35 USC § 103

- 4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 5. Claims 19, 21, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heller.
 - a. Regarding claim 19:

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Heller teaches a device according to claim 17 as discussed in the rejection of claim 17 above.

Heller does not teach wherein the second bypass line departs from the return line on a discharge side of the second pumping device and communicates the diverted return ink to the ink feed line at a location between the first bypass line and the squeegee device.

It has been held that mere rearrangement of parts is not sufficient to patentably distinguish an invention over the prior art. See MPEP § 2144.04(VI).

It would have been obvious to a person having ordinary skill in the art to modify Heller such that the device is capable of diverting ink with a second bypass line departs from the return line on a discharge side of the second pumping device and communicates the diverted return ink to the ink feed line at a location between the first bypass line and the squeegee device, because it is within the skill of a person having ordinary skill in the art to arrange the bypass line as needed to provide for efficient printing operation of the device.

b. Regarding claim 21:

Heller teaches a device according to claim 20 as discussed in the rejection of claim 20 above.

Heller does not teach wherein the ink feed chamber has a volumetric capacity that is equal to or greater than a volumetric capacity of the ink return chamber.

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It has been held that mere changes in size are not sufficient to patentably distinguish an invention over the prior art. See MPEP § 2144.04 (IV).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Heller such that the size of the pumping chambers resulted in the ink feed chamber has a volumetric capacity that is equal to or greater than a volumetric capacity of the ink return chamber, because it would have been within the skill of one having ordinary skill to design the chambers to have the size necessary for efficient printing operation.

c. Regarding claim 23:

Heller teaches a device that delivers ink to and from a closed squeegee device of a rotary printing unit inking system, comprising:

a double diaphragm pump including an ink feed chamber and an ink return chamber in which a flow rate ratio between the ink feed chamber and the ink return chamber is fixed (§ 61, pumps 19 and 21 share a common shaft, Fig. 1);

a first bypass line (line 51, Fig. 1) capable of controllably diverting from an ink feed line that feeds the ink to the squeegee device a portion of the feed ink; and

a second bypass line capable of controllably divert from an ink return line that removes the ink from the squeegee device a portion of the return ink (line 47, Fig. 1).

Heller does not teach the first bypass line departing from the ink feed line on a discharge side of the ink feed chamber and communicating the diverted feed ink to an ink tank that is in communication through an ink suction line with a suction side of the

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ink feed chamber, and the second bypass line departing from the return line on a discharge side of the ink return chamber and communication the diverted return ink to the ink feed line at a location between the first bypass line and the squeegee device.

It has been held that mere rearrangement of parts is not sufficient to patentably distinguish an invention over the prior art. See MPEP § 2144.04(VI).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Heller such that the first bypass line departing from the ink feed line on a discharge side of the ink feed chamber and communicating the diverted feed ink to an ink tank that is in communication through an ink suction line with a suction side of the ink feed chamber, and the second bypass line departing from the return line on a discharge side of the ink return chamber and communication the diverted return ink to the ink feed line at a location between the first bypass line and the squeegee device, because it would have been within the skill of a person having ordinary skill to route the bypass lines as needed to ensure sufficient quantities of ink in the inking device for efficient printing operations.

d. Regarding claim 24, Heller teaches a device according to claim 23 as discussed in the rejection of claim 23 above. Heller also teaches a cutout valve in the ink feed line (32, Fig. 1).

e. Regarding claim 25 Heller teaches a device according to claim 24 as discussed in the rejection of claim 24 above. Heller also teaches a sensor that monitors the quantity of ink in the squeegee device (63, Fig. 1) and signals a control circuit that

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regulates the through flow regulating valve such that the quantity of ink in the squeegee device is maintained within a specified limit (§ 74).

6. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heller in view of Chou, US 6,698,353 B2 (hereafter Chou).

a. Regarding claim 1:

Heller teaches a process for supplying printing ink to and educing printing ink from a squeegee device of an inking system on a rotary printing press, that has a squeegee blade carrier (Fig. 2), provided with a longitudinally running trough, with squeegee blades that are adjustable on a form inking roller or on an anilox roller, which, together with the form inking roller (9, Fig. 1) and the trough (11, Fig. 1), provide an ink chamber (13, Fig. 2), and has lines and pumping devices (19, 21, Fig. 1) powered by motors (23, Fig. 1) for supplying and educing the ink to and from the ink chamber, comprising presetting pump operational parameters of the motors such that a flow rate ratio between the first pumping device and the second pumping device is fixed (motors 19 and 21 are connected by a shaft, Fig. 1, so their flow rate ratios are fixed).

Heller does not teach diverting from an ink feed line that feed the ink to the squeegee device a portion of the feed ink and/or diverting from an ink return line that removes the ink from the squeegee device a portion of the return ink.

Chou teaches an apparatus and method for printing including an ink distribution device (60, Fig. 2), wherein ink fed to the distribution device may be diverted from the

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device through a conduit if a sensor determines that too great an amount of ink is being fed to the distribution device (col. 4, ll. 4-14).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Heller to include a diversion path for diverting from an ink feed line that feed the ink to the squeegee device a portion of the feed ink and/or diverting from an ink return line that removes the ink from the squeegee device a portion of the return ink, because the teaching of Chou would motivate one having ordinary skill in the art to recognize that a diversion path would help maintain proper levels of ink and prevent overflows.

b. Regarding claim 2, the combination of Heller and Chou teaches a device adapted to implement the process in accordance with claim 1 as discussed in the rejection of claim 1 above. Heller additionally teaches a valve (31, Fig. 1) that appears to be adapted to divert feed ink through a bypass line (47, Fig. 1) that departs from the feed line.

c. Regarding claim 3, the combination of Heller and Chou teaches a device in accordance with claim 2 as discussed in the rejection of claim 2 above. Heller also teaches wherein the bypass line (47, Fig. 1) leads back to an ink tank (line 47 leads back to an ink tank via pump 21, line 46 A and line 46B, Fig. 1).

d. Regarding claim 4, the combination of Heller and Chou teaches a device adapted to implement the process in accordance with claim 1 as discussed in the rejection of claim 1 above. Heller additionally teaches where the return ink may be diverted through

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a bypass line (47, Fig. 1) that depart from the return line (41, Fig. 1) and connects to the feed line (through valve 31 to line 27, Fig. 1) of the squeegee device.

e. Regarding claim 5 the combination of Heller and Chou teaches a device in accordance with claim 2 as discussed in the rejection of claim 2 above. Heller also teaches a cutout valve (32, Fig. 1) provided in at least one of the feed line (33, Fig. 1).

f. Regarding claim 6 the combination of Heller and Chou teaches a device in accordance with claim 5 as discussed in the rejection of claim 5 above. Heller also teaches a sensor (63, Fig. 1) that monitors a quantity of the ink present in the squeegee device and signals a control circuit such that the quantity of ink circulating in the squeegee device is maintained within specified limits (§ 74).

g. Regarding claim 7, the combination of Heller and Chou teaches a device adapted to implement the process in accordance with claim 1 as discussed in the rejection of claim 1 above. Heller additionally teaches wherein the first and second pumping devices (19, 21, Fig. 1) are each a chamber of a double diaphragm pump driven by a single shaft (§ 61).

h. Regarding claim 8, the combination of Heller and Chou teaches a device in accordance with claim 7 as discussed in the rejection of claim 7 above. Heller also teaches wherein a first chamber is an ink feed chamber and a second chamber is an ink return chamber (§ 61).

i. Regarding claim 9:

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The combination of Heller and Chou teaches a device in accordance with claim 8 as discussed in the rejection of claim 8 above.

Heller also teaches two pumping chambers (19, 21, Fig. 1) that each inherently have a volumetric capacity, as each is intended to pump ink.

Heller does not explicitly teach wherein the ink feed chamber has a volumetric capacity that is equal to a volumetric capacity of the ink return chamber.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design Heller such that the ink feed chamber has a volumetric capacity that is equal to a volumetric capacity of the ink return chamber, because it would have been within the skill of an ordinarily skilled person to select the proper volumetric capacity of the pumping chambers such that the overall apparatus provided sufficient quantities of ink to provide a printed product.

j. Regarding claim 10:

The combination of Heller and Chou teaches a device in accordance with claim 8 as discussed in the rejection of claim 8 above.

Heller also teaches two pumping chambers (19, 21, Fig. 1) that each inherently have a volumetric capacity, as each is intended to pump ink.

Heller does not explicitly teach wherein the ink feed chamber has a volumetric capacity that is great than a volumetric capacity of the ink return chamber.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design Heller such that the ink feed chamber has a

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volumetric capacity that is greater than a volumetric capacity of the ink return chamber, because it would have been within the skill of an ordinarily skilled person to select the proper volumetric capacity of the pumping chambers such that the overall apparatus provided sufficient quantities of ink to provide a printed product. A person having ordinary skill in the art may desire to have the feed pump have a higher capacity, as a great quantity of ink may be used during printing, and therefore there would be relatively less ink to return, resulting in a need for a return pump with a smaller volumetric capacity.

k. Regarding claim 11:

The combination of Heller and Chou teaches a device in accordance with claim 8 as discussed in the rejection of claim 8 above.

Heller also teaches two pumping chambers (19, 21, Fig. 1) that each inherently have a volumetric capacity, as each is intended to pump ink.

Heller does not explicitly teach wherein the ink return chamber has a volumetric capacity that is great than a volumetric capacity of the ink feed chamber.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design Heller such that the ink return chamber has a volumetric capacity that is greater than a volumetric capacity of the ink feed chamber, because it would have been within the skill of an ordinarily skilled person to select the proper volumetric capacity of the pumping chambers such that the overall apparatus provided sufficient quantities of ink to provide a printed product. A person having

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ordinary skill in the art may desire to have the return pump have a higher capacity, as a small quantity of ink may be used during printing, and therefore there would be relatively more ink volume to return, as there may also be a volume of air entrained in the ink, resulting in a need for a return pump with a greater volumetric capacity.

I. Regarding claim 12:

The combination of Heller and Chou teaches a process in accordance with claim 1 as discussed in the rejection of claim 1 above.

Heller also teaches two pumping chambers (19, 21, Fig. 1) that each inherently have a volumetric capacity and flow rate, as each is intended to pump ink.

Heller does not explicitly teach wherein a volumetric flow rate of the return ink that is removed from the squeegee device is greater than a volumetric flow rate of the feed in on a discharge side of the pumping device that pumps the feed ink.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design Heller such that a volumetric flow rate of the return ink that is removed from the squeegee device is greater than a volumetric flow rate of the feed in on a discharge side of the pumping device that pumps the feed ink, because it would have been within the skill of an ordinarily skilled person to select the proper volumetric flow rates such that the overall apparatus provided sufficient quantities of ink to provide a printed product. A person having ordinary skill in the art may desire to have the return pump have a higher flow rate, as a small quantity of ink may be used during printing, and therefore there would be relatively more ink volume to return, as there may

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also be a volume of air entrained in the ink, resulting in a need for a return pump with a greater volumetric flow rate.

m. Regarding claim 13, the combination of Heller and Chou teaches a process in accordance with claim 12 as discussed in the rejection of claim 12 above. Heller also inherently teaches that the return ink that is removed from the squeegee device is enriched with air, as some air is inherently entrained in the ink due to the normal operation of the inking device in Fig. 2.

n. Regarding claim 14, the combination of Heller and Chou teaches a process in accordance with claim 1 as discussed in the rejection of claim 1 above. The combination of Heller and Chou also inherently teaches wherein a volume of the feed ink that is diverted from the ink feed line is such that the flow rate corresponds to a volume pumped by the pumping devices. This is so because the volume flow rates *must* correspond to each other, otherwise the process would result in either a starvation of the inking device due to too little ink, or an overflow condition at the inking device which would result in waste of ink, either condition being undesirable for efficient printing operations.

o. Regarding claim 15:

The combination of Heller and Chou teaches a device in accordance with claim 4 as discussed in the rejection of claim 4 above.

Heller does not teach wherein the return line leads to the ink tank.

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Chou additionally teaches that the diverted ink is returned to the ink tank (col. 4, ll. 10-14).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to return the ink to the ink tank as taught by Chou, because a person having ordinary skill in the art would recognize that returning the ink to the ink tank would allow the ink to then subsequently be returned to the inking system on an as-needed basis for efficient printing operations.

p. Regarding claim 16, the combination of Heller and Chou teaches a process in accordance with claim 1 as discussed in the rejection of claim 1 above. The combination of Heller and Chou also teaches wherein the step of diverting the portion of the feed ink or the step of diverting the portion of the return ink is performed during the inking operation of the squeegee device (Chou, col. 4, ll. 4-14).

Response to Arguments

7. Applicant's arguments with respect to the rejections previously applied to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo T. Hinze whose telephone number is 571.272.2864. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571.272.2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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28 September 2007


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